

PRACTICE AND APPLICATIONS

Extra Practice
to help you master
skills on p. 947.

STUDENT HELP

— HOMEWORK HELP

Example 1: Exs. 15–26
Example 2: Exs. 37–46
Example 3: Exs. 81, 82
Example 4: Exs. 47–79
Example 5: Exs. 83–86

STUDENT HELP

CLASSIFYING POLYNOMIALS Decide whether the function is a polynomial function. If it is, write the function in standard form and state the degree, type, and leading coefficient.

15. $f(x) = 12 - 5x$
16. $f(x) = 2x + \frac{5}{3}x^4 + 9$
17. $f(x) = x + \pi$
18. $f(x) = x^2\sqrt{2} + x - 5$
19. $f(x) = x - 3x^{-2} - 2x^3$
20. $f(x) = -2$
21. $f(x) = x^2 - x + 1$
22. $f(x) = 22 - 19x + 2x$
23. $f(x) = 36x^2 - x^3 + x^4$
24. $f(x) = 3x^2 - 2x^{-x}$
25. $f(x) = 3x^3$
26. $f(x) = -6x^2 + x - \frac{x}{3}$

DIRECT SUBSTITUTION Use direct substitution to evaluate the polynomial function for the given value of x .

27. $f(x) = 2x^3 + 5x^2 + 4x + 8, x = -2$
28. $f(x) = 2x^3 - x^4 + 5x^2 - x, x = 3$
29. $f(x) = x + \frac{7}{2}x^3, x = 4$
30. $f(x) = x^2 - x^5 + 1, x = -1$
31. $f(x) = 5x^4 - 8x^3 + 7x^2, x = 1$
32. $f(x) = x^3 + 3x^2 - 2x + 5, x = -3$
33. $f(x) = 11x^3 - 6x^2 + 2, x = 0$
34. $f(x) = x^4 - 2x + 7, x = 2$
35. $f(x) = 7x^3 + 9x^2 + 3x, x = 10$
36. $f(x) = -x^5 - 4x^3 + 6x^2 - x, x = -2$